

Environmental considerations

Mike Baldwin

Table 2. The ecological ceiling and its indicators of overshoot

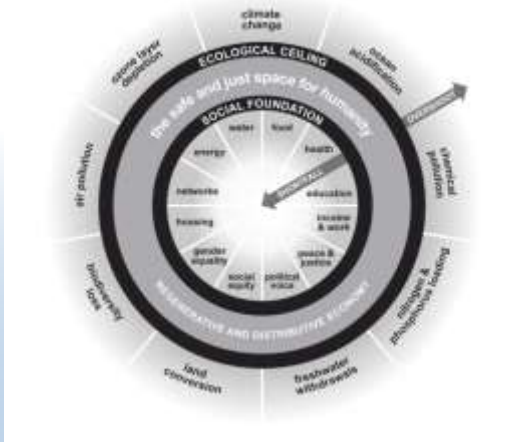
Sub-System Pressure	Control Variable	Planetary Boundary	Current Value and Trend
Climate change	Atmospheric carbon dioxide concentration, parts per million (ppm)	At most 350ppm	400ppm and rising (worsening)
Ocean Acidification	Average saturation of aragonite (carbon skeletons) of the ocean surface, as a percentage of pre-industrial levels	At least 80% of pre-industrial saturation levels	Already 84% and falling (worsening)
Chemical Pollution	No global control variable yet defined	—	—
Nitrogen and Phosphorus Loading	Phosphorus is applied to land as fertilizer, millions of tons per year Reactive nitrogen applied to land as fertilizer, millions of tons per year	At most 62 million tons per year At most 62 million tons per year	Around 74 million tons per year and rising (worsening) Around 190 million tons per year and rising (worsening)
Freshwater Withdrawals	Blue water consumption, cubic kilometers per year	At most 4,000 km ³ per year	Around 2,800 km ³ per year and rising (worsening)
Land Conversion	Area of forested land as a proportion of forest-covered land prior to human utilization	At least 75%	82% and rising (worsening)
Biodiversity Loss	Rate of species extinction per million species per year	At most 10	Around 100–1,000 and rising (worsening)
Air Pollution	No global control variable yet defined	—	—
Ozone Layer Depletion	Concentration of ozone in the stratosphere, in Dobson Units (DU)	At least 375 DU	285 DU and rising (improving)

Source: Steffen et al. (2015)

We have an economy that needs to grow, whether or not it makes us thrive. We need an economy that makes us thrive, whether or not it grows.

And instead of focusing on the throughflow of monetary value, as GDP was designed to do, the new metrics will monitor the many sources of wealth – human, social, ecological, cultural and physical – from which all value flows.

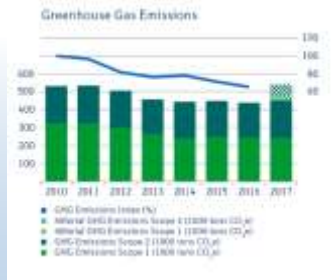
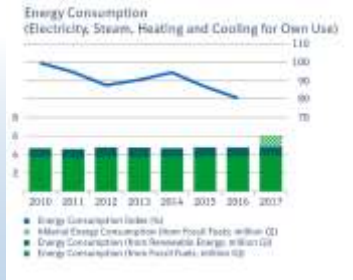
The need for a new framework



Presentation title, date, author

Being part of the health ecosystem

"In all our activities we will protect our employees, facilities and the environment from harmful influences, conserve natural resources and promote environmental awareness". This is stated in our guiding principles or "*Leitbild*"



<https://www.boehringer-ingenheim.com/sustainability/environment-health-and-safety/performance-indicators>

Presentation title, date, author

Post manufacturer > health care systems

INCREMENTAL COSTS

HTA framework of

INCREMENTAL BENEFITS

From a health care system perspective.

Current heuristic if everything the same then the more environmentally sound the technology then it should Be adopted.

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Why not extend this?



WHERE IS THE DATA?



WHAT ARE THE COSTS IN GATHERING THESE DATA?



ARE THERE ANY INCENTIVES IN SHOWING THESE DATA?

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GO FURTHER

ECONOMISTS AS DESIGNERS / COCREATORS OF CARE PATHWAYS



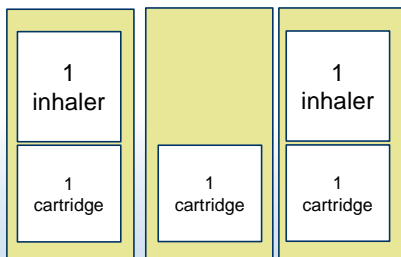
Sustainable_Care_Pathways_Guidance_-_Main_Document_-_Oct_2015.

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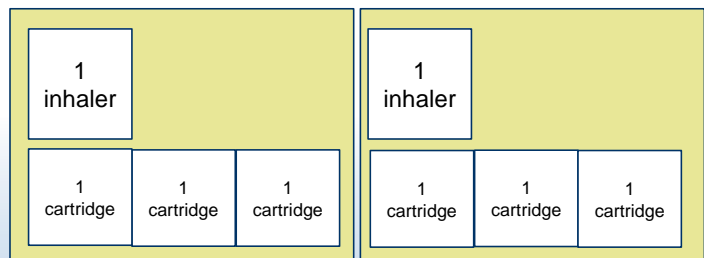
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Design – institutional design or process design

COUNTRY A



COUNTRY B



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Future requests

- Where are we optimising our systems?
 - Patient experience
 - Total costs
 - Environmental costs
- How are we making choices in this optimisation
- Where are the incentives of producing a full data package?

Thank you
